

CLAIMS

What is claimed is:

5 1. A method for constructing parameterized web documents comprising the steps of:

- (a) receiving as input a current document to be distributed to a user;
- (b) identifying a base document that serves as a reference for said current document;
- (c) decomposing said current document into (i) strings that occur in said base document, and (ii) strings that do not occur in said base document;
- 10 (d) creating a computer program that when executed on a content browser recreates and displays the current document from (i) said base document, and (ii) said strings that do not occur in said base document; and
- (e) distributing said computer program to said user in place of sending to said user said current document in its entirety.

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2. The method of claim 1 wherein said computer program includes: (i) a base document identifier; (ii) references to portions of said base document for strings that occur in said base document; and (iii) references to strings that do not occur in said base document.

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3. The method of claim 1 wherein said program of step (c) is in a scripting language executable on a content browser of said user.

25 4. The method of claim 3 where said scripting language is Javascript.

5. The method of claim 1 wherein said computer program is configured so that no special software is required at the user for reconstructing said current document.

30 6. The method of claim 5 wherein said program is configured to be self-executing on said content browser.

7. The method of claim 1 wherein said base document shares content with said current document.

5 8. The method of claim 1 wherein said base document is accessible to said user from a cache.

9. The method of claim 8 wherein said cache is a local cache of said user's content browser.

10 10. The method of claim 8 wherein said cache is a network cache common to a plurality of users.

15 11. The method of claim 8 wherein said base document is encoded with a lifetime that is greater than an expected usage time therefor.

12. The method of claim 8 further comprising replacing said base document in said cache when a difference between said current document and said base document exceeds a threshold value.

20 13. The method of claim 1 wherein said computer program includes a reference to said base document.

14. The method of claim 13 wherein said reference to said base document is configured to substantially minimize conflicts with references to non-base documents.

25 15. The method of claim 13 wherein said reference to said base document is a storage location identifier.

30 16. The method of claim 15 where said storage location identifier is a URL.

17. The method of claim 16 where said URL contains a substantially random number.

18. The method of claim 1 wherein said step (b) of identifying said base document is
5 based on degree of similarity to said current document.

19. The method of claim 18 wherein said base document is a previous version of the
current document.

10 20. The method of claim 1 wherein said base document is a template for said current
document.

15 21. The method of claim 1 wherein said documents are block-based and said strings
are said blocks.

22. The method of claim 21 wherein said block-based documents are representations
of video sequences.

20 23. The method of claim 21 wherein said block-based documents are representations
of audio sequences.

24. A computer-readable storage medium encoded with program logic instructions for
improving network efficiency of document transmission from a content server to
a user, said processing instructions when executed on a computer:
25 (a) receiving as input a current document to be distributed to a user;
(b) identifying a base document that serves as a reference for said current
document;
(c) decomposing said current document into (i) strings that occur in said base
document, and (ii) strings that do not occur in said base document;

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- (d) creating a computer program that when executed on a content browser recreates and displays the current document from (i) said base document, and (ii) said strings that do not occur in said base document; and
- (e) distributing said computer program to said user in place of sending to said user said current document in its entirety.

25. A file server located between, and configured to improve network efficiency of document transmission between, a content server and a user, comprising:

- 10 (a) an input interface configured to:
 - (i) receive a current document to be distributed to a user, and
 - (ii) identify a base document that serves as a reference for said current document;
- (b) a condensation module configured to:
 - (i) decompose said current document into (x) strings that occur in said base document, and (y) strings that do not occur in said base document, and
 - (ii) create a computer program that when executed on a content browser recreates and displays the current document from (x) said base document, and (y) said strings that do not occur in said base document; and
- 15 (c) an output interface configured to distribute said computer program to said user in place of sending said current document in its entirety.

26. The file server of claim 25 further comprising a cache configured to provide said base document.

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27. A method for constructing parameterized web documents comprising the steps of:

- (a) receiving as input content strings to be distributed to a user;
- (b) obtaining a base document that serves as a reference for said content strings;

5 (c) representing a current document to be transmitted to said user as a combination of (i) said input content strings and (ii) at least one portion of said base document;

(d) creating a computer program in a scripting language that when executed on a content browser recreates and displays the current document from (i) said base document, and (ii) said input content strings; and

(e) distributing said computer program to said user in place of sending said current document in its entirety.

10 28. A computer-readable storage medium encoded with program logic instructions for improving network efficiency of document transmission from a content server to a user, said processing instructions when executed on a computer:

(a) receiving as input content strings to be distributed to a user;

(b) obtaining a base document that serves as a reference for said content strings;

(c) representing a current document to be transmitted to said user as a combination of (i) said input content strings and (ii) at least one portion of said base document;

(d) creating a computer program in a scripting language that when executed on a content browser recreates and displays the current document from (i) said base document, and (ii) said input content strings; and

(e) distributing said computer program to said user in place of sending said current document in its entirety.

15 29. A file server located between, and configured to improve network efficiency of document transmission between, a content server and a user, comprising:

(a) an input interface configured to:

(i) receive content strings to be distributed to a user, and

(ii) obtain a base document that serves as a reference for said content strings;

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- (b) a condensation module configured to:
 - (i) represent a current document to be transmitted to said user as a combination of (x) said input content strings and (y) at least one portion of said base document, and
 - (ii) create a computer program that when executed on a content browser recreates and displays the current document from (x) said base document, and (y) said input content strings; and
- (c) an output interface configured to distribute said computer program to said user in place of sending said current document in its entirety.

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30. The file server of claim 29 further comprising a cache configured to provide said base document.

